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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,540	10/01/2003	John E. Thompson	10799/96	5515
23838	7590	10/21/2005	EXAMINER	
KENYON & KENYON 1500 K STREET NW SUITE 700 WASHINGTON, DC 20005			KUMAR, VINOD	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/674,540

Applicant(s)

THOMPSON ET AL.

Examiner

Vinod Kumar

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-53 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4 and 7-53, drawn to an isolated DNA molecule encoding senescence-induced lipase, or wherein a transformation vector comprising antisense sequence of said DNA molecule operably linked to regulatory sequences, or wherein the regulatory sequences comprise a promoter and a transcription termination region, or wherein the regulatory sequences comprise constitutive, plant tissue-specific, senescence-induced or a viral promoter, or wherein a plant cell transformed with said vector, or wherein a plant and progeny thereof generated from a plant cell transformed with said vector, or a method for inhibiting the expression of endogenous senescence-induced lipase in a plant comprising integrating into the plant genome said vector comprising said DNA molecule operably linked to said promoter, and growing said plant, whereby said antisense nucleotide sequences are transcribed and bind to endogenous senescence-induced lipase RNA sequence, whereby expression of said senescence-induced lipase is inhibited, or wherein said inhibition results in altered senescence of the plant or increased resistance of said plant to environmental stress-induced senescence or wherein said inhibition results in enhanced biomass of said plant or increased seed yield, or a method for inhibiting

the expression of an endogenous senescence-induced lipase gene or genes in a plant cell comprising integrating into the genome of at least one cell of the plant a vector comprising an isolated DNA molecule encoding exogenous senescence-induced lipase operably linked with regulatory sequences such that the exogenous senescence-induced lipase encoded thereby is expressed, and growing said plant, whereby said DNA molecule is over-expressed and the endogenous senescence-induced lipase gene or genes is inhibited by exogenous senescence-induced lipase, classified in class 800, subclass 290, for example.

- II. Claims 5 and 6, drawn to an isolated senescence-induced lipase encoded by a nucleotide sequence which hybridizes under low stringency conditions with SEQ ID NOs: 1, 18 or both, or a functional derivative of the senescence-induced lipase, or wherein said the senescence-induced lipase has the amino acid sequence set forth in SEQ ID NOs: 2 or 19, classified in class 536, subclass 23.6, for example.

Inventions of Group I and II are patentably distinct. Group I invention requires over-expression of sense or antisense copy of senescence induced lipase in transgenic plant whereby the expression levels of endogenous senescence induced lipase are inhibited resulting in increased resistance to environmental stress or enhanced biomass, whereas invention of Group II does not have any such requirements. Additionally, Group II invention does not require transformation vector comprising a promoter to drive expression of sense or antisense copy of senescence induced lipase in transgenic

tissue. But invention of Group II requires hybridization of an isolated senescence-induced lipase encoded by a nucleotide sequence at low stringency conditions with SEQ ID NOs: 1, 18 or functional derivatives thereof. But there is no such requirement for invention of Group I.

Furthermore, searching the inventions of Groups I and II together would impose a serious search burden. In the instant case, the search for invention of Group I requires literature search pertaining to transgenic plants engineered for down-regulation of endogenous levels of senescence-induced lipases. This will include reviewing literature search on sense and antisense based gene suppression. Likewise, Group II invention will include all such polynucleotides that hybridize to senescence induced lipases under low stringency conditions. This will also include polynucleotides not even related with senescence but do display significant homology with SEQ ID NOs: 1, 18 or functional derivative thereof.

Thus, in the instant case, the literature search for the inventions of Group I and II are not coextensive. The inventions of Groups I and II have a separate status in the art as shown by their different classification.

Applicants are reminded that different nucleotide sequences and amino acid sequences are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence and each amino acid sequence is presumed

Art Unit: 1638

to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

**Applicants are also required to elect** one nucleic acid sequence and one encoded amino acid sequence to be examined in conjunction with the elected group of claims: nucleotide sequence having one of SEQ ID NOs: 1 or 18. This requirement is not to be construed as a requirement for an election of species, since each nucleotide sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

A telephone call was made to Teresa Lavenue on October 12, 2005 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.

Art Unit: 1638

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William (Gary) G. Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**ASHWIN D. MEHTA, PH.D.**  
**PRIMARY EXAMINER**